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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,682	04/02/2004	Hiroshi Suzuki	251404US2	9772
22850	7590	05/16/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER HAM, SEUNGSOOK	
			ART UNIT 2817	PAPER NUMBER

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/815,682	SUZUKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Seungsook Ham	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/2/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The abstract of the disclosure is objected to because the abstract should be limited to a single paragraph (line 20 should be deleted). Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities:

Page 5, line 22, “”]” should be deleted.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730).

Aoki et al. (fig. 4) discloses the same common-mode filter except at least two wires are wound in a manner that an inter-wire distance exists between two wires (the wires 4 are also spaced apart, i.e., pitch). However, Aoki et al. (figs. 10(a)-10(c)) also shows two conductive wires 4 separated by an inter-wire distance. It should be noted that the wires 4 shown in figure 10(a) are functionally equivalent to the wires 4 in figure 4. Moreover, it is well known in the art that conductive wire is capable of carrying a high current in comparison to an insulated wire (e.g., bifilar). Therefore, it would have been

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obvious to one of ordinary skill in the art to provide the two wires having an inter-wire distance in the device of Aoki et al. in figure 4 since both wires are functionally equivalent, and also to carry a high current.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730) in view of Kimura et al. (US '850).

The modified device of Aoki et al. does not show a plate-shape core fixed on the top surface of the drum type core.

Kimura et al. (fig. 1) discloses a similar common-mode filter having a plate-shape core 19 fixed on the top surface of the drum type core 11 to form a closed magnetic circuit structure (col. 4, lines 1-4).

It would have been obvious to one of ordinary skill in the art to provide a plate-shape core on the top surface of the drum type core in the modified device of Aoki et al. to provide a closed magnetic circuit structure as taught by Kimura et al.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730) in view of Aoki et al. (US '095).

The modified device of Aoki et al. (JP '730) does not show providing a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core.

Aoki et al. (US '095, fig. 2) discloses a similar common-mode filter having a composite magnetic material 24 over a space between top surfaces of the pair of flange portions of the drum type core.

It would have been obvious to one of ordinary skill in the art to provide a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core in the modified device of Aoki et al. (JP '730) to improve the quality (such as reliability, characteristics, appearance, etc.) of the filter device as taught by Aoki et al. (US '095, col. 2, lines 22-25).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730) in view of Aoki et al. (JP 2002-075722).

The modified device of Aoki et al. (JP '730) does not show the exact composition of the drum type core.

Aoki et al. (JP '722, see abstract) discloses the same ferrite composition as the applicant's claimed invention.

It would have been obvious to one of ordinary skill in the art to use the ferrite material of Aoki et al. (JP '722) to make the core in the modified device of Aoki et al. (JP '730) to obtain a high quality factor as taught by Aoki et al. (JP '722, see abstract).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730) in view of Wada (JP '705).

Aoki et al. (fig. 4 or 10) discloses the same common-mode filter except the core portion has a plurality of concave/convex portions for positioning the wires.

Wada (figs. 1(a)-3) discloses a core having a plurality of concave/convex portions to position the coil/wire.

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It would have been obvious to one of ordinary skill in the art to provide a plurality of concave/convex portions on the core in the device of Aoki et al. to easily regulate the pitch between the wire turns as taught by Wada (see abstract).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730) in view of Wada (JP '705) as applied to claim 5 above, and further in view of Kimura et al. (US '850).

The device of Aoki et al. does not show a plate-shape core fixed on the top surface of the drum type core.

Kimura et al. (fig. 1) discloses a similar common-mode filter having a plate-shape core 19 fixed on the top surface of the drum type core 11 to form a closed magnetic circuit structure (col. 4, lines 1-4).

It would have been obvious to one of ordinary skill in the art to provide a plate-shape core on the top surface of the drum type core in the device of Aoki et al. to provide a closed magnetic circuit structure as taught by Kimura et al.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730) in view of Wada (JP '705) as applied to claim 5 above, and further in view of Aoki et al. (US '095).

The device of Aoki et al. (JP '730) does not show providing a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core.

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Aoki et al. (US '095, fig. 2) discloses a similar common-mode filter having a composite magnetic material 24 over a space between top surfaces of the pair of flange portions of the drum type core.

It would have been obvious to one of ordinary skill in the art to provide a composite magnetic material over the space between top surfaces of the pair of flange portions of the drum type core in the device of Aoki et al. (JP '730) to improve the quality (such as reliability, characteristics, appearance, etc.) of the filter device as taught by Aoki et al. (US '095, col. 2, lines 22-25).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (JP 2003-077730) in view of Wada (JP '705) as applied to claim 5 above, and further in view of Aoki et al. (JP 2002-075722).

The device of Aoki et al. (JP '730) does not show the exact composition of the drum type core.

Aoki et al. (JP '722, see abstract) discloses the same ferrite composition as the applicant's claimed invention.

It would have been obvious to one of ordinary skill in the art to use the ferrite material of Aoki et al. (JP '722) to make the core in the device of Aoki et al. (JP '730) to obtain a high quality factor as taught by Aoki et al. (JP '722, see abstract).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Maeda et al. (JP '233, see fig. 3) discloses a noise filter having a core with a plurality of groove for positioning a coil; and

Aoba et al. discloses a chip inductor covered with a composite magnetic material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seungsook Ham  
Primary Examiner  
Art Unit 2817

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